

ABSTRACT OF THE DISCLOSURE

A method for preventing or reducing warping of a semiconductor wafer following backside grinding to a high degree of thinness. Following rough backside grinding of the wafer, a layer of tenacious reinforcement material is applied over the rough backside without prior, conventional polishing or plasma etching. The thin layer or film of reinforcement material is applied and hardened to fill grooves, fractures and scratches in the wafer, enhance the rigidity of the wafer and provide a planar, smooth, backside surface layer. The hardened reinforcement material counteracts internal stresses of the wafer tending to warp, crack and propagate lattice defects in the wafer. The reinforcement material may also be configured to act as a die attach adhesive, may provide an ionic barrier, and may remain as part of the packaging for semiconductor dice singulated from the wafer.

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